Bureau of Health Information

MEDIA BACKGROUNDER

Insights into Care: 30 day mortality for five clinical conditions in NSW

What is this report about?

This report draws on 12 years of information from hospital records and death registries to provide our analyses of 30-day mortality following hospitalisation for five clinical conditions: heart attack; ischaemic stroke; haemorrhagic stroke; pneumonia; hip fracture surgery.

Together the five conditions account for approximately 20% of all deaths in NSW hospitals.

These five conditions were selected to provide insights into different aspects of healthcare including acute emergency care, surgery, specialised care delivery, rehabilitation and community-based services.

The Bureau's 30-day mortality data includes deaths in and outside hospital, in line with international best practice. This captures both in hospital care as well as the broader healthcare system following discharge from hospital.

Is this information currently available?

This is the first time in Australia that these mortality measures are being published at the state level and for individual hospitals for these conditions.

What are the main findings?

- In all five conditions mortality has decreased in NSW since 2000
- NSW compares well in the international context.
- The vast majority of hospitals in New South Wales do not have higher than expected mortality.
- Among 80 referral, major and district hospitals, between July 2009 and June 2012:
  - 58 did not have higher than expected mortality for any of the five conditions
  - No hospital had higher than expected mortality for all five conditions
  - 18 had higher than expected mortality for only one of the five conditions
  - 3 had higher than expected mortality for two conditions
  - 1 had higher than expected mortality for four conditions
  - Hospitals with higher than expected mortality were found in urban and rural settings
- Over the period 2000-2012, few hospitals consistently had higher than expected mortality

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Why is the Bureau reporting on 30-day mortality?

While mortality is influenced by many factors that go beyond quality of care, 30 day mortality remains an important measure. It is used internationally to measure and inform patients and clinicians about the effectiveness of the health system and treatment of certain conditions. Mortality indicators can act as a signal to examine the quality of care provided.

Making the information publicly available helps to highlight areas of concern, both at a hospital and health system level. It also highlights areas of excellence, allowing the system to identify initiatives that have been proven to be effective and expand these where appropriate.

Are high 30-day mortality rates a reflection of poor hospital performance?

No single indicator is able to fully capture the complexities of performance. Mortality rates, on their own, cannot measure overall performance or quality of care. They can however ensure that further investigation is targeted towards specific quality of care issues.

Can mortality ratios be used to compare hospitals?

The findings are not appropriate for comparing or ranking hospitals or for identifying avoidable deaths. They are useful for hospitals to compare their results against the State average.

Why are mortality rates important?

Mortality ratios provide a piece of the picture about hospital performance and are complementary to other quality and safety measures currently used within the health system. They act as important screening tools, providing an indication of where a performance problem may exist and where further assessments of safety and quality of care should be made.

What is a Risk-Standardised Mortality Ratio?

The principal indicator used in the report, risk-standardised mortality ratio (RSMR), compares the number of deaths that occurred in the 30-days following admission to hospital with the number of ‘expected’ deaths. The ‘expected’ number of deaths uses a statistical model and is calculated based on factors that influence the likelihood of a patient dying such as age and pre-existing conditions.

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How do I interpret the RSMRs?

A ratio less than 1.0 indicates lower-than-expected mortality, and a ratio more than 1.0 indicates higher-than-expected mortality.

Small deviations from 1.0 are not considered to be meaningful.

A mortality ratio of 1.25 indicates mortality is 25% higher than expected at that hospital. A mortality ratio of 0.75 indicates mortality is 25% lower than expected at that hospital.

Why is a mortality ratio of 1.4 higher than expected for one hospital but not higher than expected for another hospital?

Smaller hospitals with lower numbers of patients may have mortality ratios that appear to be higher than expected but are not identified as 'higher than expected'. Their results, presented within the funnel plots in the report, will inevitably display more variance due to their small volumes.

For example:

Hospital A has 10 deaths over a three year period. If an additional two deaths occurred at this hospital, this would equate to a 20% increase in mortality.

Hospital B has 100 deaths over a three year period. If an additional two deaths occurred at this hospital, this would equate to a 2% increase in mortality.

Is there cause for concern for patients?

The report shows that mortality following hospitalisation for the five conditions reported has been going down over the last decade. Overall NSW compares well in the international context and the vast majority of hospitals are no different or have lower than expected mortality.

Mortality measures do not provide, by themselves, a reflection of whether care was of good or poor quality. Other measures, such as clinical audit and review panels, assess whether processes of care are appropriate.

Who are the best and worst performers?

As with any mortality ratio, caution should be taken in the interpretation of the measure provided. It is not appropriate for this measure to be used for comparing or ranking hospitals or for identifying avoidable deaths. This is because the model used to calculate RSMRs takes into account the specific patients seen at each hospital and therefore results can only be used to assess performance compared to the NSW average. There are however some important findings that point to where further considerations and assessments of care could be made.

If a patient arrives at hospital X but is transferred to hospital Y for treatment and then dies, which hospital is the death attributed to?

The report attributes deaths to the first hospital a patient attended.

In cases where a patient has been transferred to another hospital and a death is recorded within 30 days of the first hospitalisation, the death is attributed to the first hospital the patient attended.

What are the five conditions included in the report?

Heart attack (acute myocardial infarction)

Heart attack is referred to by its clinical name acute myocardial infarction (AMI). An AMI, or heart attack, occurs when the blood supply to part of the heart is interrupted, resulting in the death of heart cells.

Ischaemic stroke

Ischaemic stroke is a stroke cause by a blood clot in the brain. Approximately four in five strokes are ischaemic strokes.

Haemorrhagic stroke

A haemorrhagic stroke occurs when a blood vessel within the brain, usually an artery, develops a leak or bursts. As a result, the brain surrounding the vessel is damaged by blood or pressure.

Pneumonia

Pneumonia is an inflammatory condition of one or both lungs, usually due to infection.

Hip fracture surgery

Hip fracture is a femor fracture close to the hip joint. There are two main risk factors, both associated with ageing: increased risk of falling, and loss of skeletal strength from osteoporosis. This measure looks at deaths following surgery to repair a fractured hip.

What are the next steps?

The Bureau of Health Information has a mandate to inform the population, clinicians, policy-makers and members of Parliament in a way that both supports improvement in the system and promotes accountability.

Hospitals should consider their results and identify where improvements can be made, regardless of whether or not mortality was higher, as expected or lower than expected.

Together with these results, other quality and safety measures, such as clinical audit and review panels, can further assess models of care.

Clinical networks, through the leadership of the Agency for Clinical Innovation and the Clinical Excellence Commission, are able to assess processes of care and implement improvement programs where required.

Download the report

Available for download now at www.bhi.nsw.gov.au

Insights into Care

Insights into Care: 30-day mortality following hospitalisation for five clinical conditions, NSW, July 2009 – June 2012: Acute myocardial infarction, ischaemic stroke, haemorrhagic stroke, pneumonia and hip fracture surgery

Individual Hospital Profiles

Individual profiles for each hospital and clinical condition are provided

Media Materials

Media release

30-day Mortality Infographic

About the Bureau of Health Information

The role of the Bureau is to provide independent reports to government, the community and healthcare professionals on the performance of the NSW public health system, including safety and quality, effectiveness, efficiency, cost and responsiveness of the system to the health needs of the people of NSW.